

TYPE C

USB_C_Receptacle_USB2.0_16P

J1

VBUS

A4

A5

CC1

B5

CC2

A7

B7

D-

D-

A6

B6

D+

D+

A8

SBU1

B8

SBU2

SHIELD

S1

A1

GND

R3 5.1K

R4 5.1K

GND

DN

DP

The power supply section consists of two main stages: a DC-DC buck converter (U6) and a low-dropout regulator (U5).

DC-DC Converter (U6: XC6220B331MR): This converter takes a +5V input and regulates it to +3.3V. The input is connected to VIN (pin 1), and the output is connected to VOUT (pin 5). The control pin (pin 3, CE) is connected to GND. Input capacitors C20 (22uF) and C21 (1uF) are connected to VIN. Output capacitors C24 (22uF) and C25 (1uF) are connected to VOUT. The converter is powered by D4 and D5 Schottky diodes connected to the +5V and VBUS lines.

LDO Regulator (U5: TPS54620RGYR): This LDO takes the +3.3V input and regulates it to +5V. The input is connected to PVIN_4 (pin 4) and PVIN_5 (pin 5). The output is connected to PH_11 (pin 11) and PH_12 (pin 12). The enable pin (pin 10, EN) is connected to TPS_EN. The feedback pin (pin 8, COMP) is connected to a voltage divider consisting of R16 (3.92K) and C28 (5.6nF). The output capacitor C29 (82pF) is connected to the output. The LDO is powered by C8 (47uF), C26 (10uF), and C27 (4.7uF) capacitors. The output is connected to the +5V line and is bypassed by capacitors C31 (47uF), C32 (47uF), and C36 (47uF). The LDO is also connected to a 28.7K resistor (R19) and a 100nF capacitor (C30) connected to the BOOT pin (pin 13).

CP2102 AUTO PROGRAM

Driver Servo

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